

PRODUCTION ACCEPTANCE TEST PROCEDURE for the MALSR SYSTEM w/o RMS

Where used: G1-23-1000

Contract No.: DTFA01-02-C-00175

Y1-02-1062

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FM 39229

REVISIONS

Revision	Date	Change Description	Approval
-	5/15/03	ECO #13779	Tracey Cohen
A	7/9/03	ECO #13887	Tracey Cohen

REQUIREMENTS / TEST PROCEDURE CROSS REFERENCE MATRIX

Requirement Document No. and Paragraph No.	Description	Test Procedure Paragraph No.
FAA-E-2325E 3.2.3.2.12	SOFT START FUNCTION	7.2.2.1, 7.2.2.2, 7.2.2.8, 7.2.2.8.1
3.2.3.2.3	SAFETY OVERRIDE	7.2.2.3
3.2.4	POWER TRANSFORMER UNIT	7.2.2.4
3.2.5.4.7	INTERLOCK SWITCHES	7.2.2.6
4.5.1	VISUAL INSPECTION (Test Set-up)	7.1
4.5.17	OPERATIONAL TEST	7.2.1, 7.2.2
4.5.17.2	TWO HOUR TEST	7.2.2.5

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1.0**SCOPE**

The MALSР is a visual guidance lighting system that is installed along an extended centerline of the runway with the lights facing the direction of the approaching aircraft. The system provides a ground reference aid for the pilot when making an approach to the runway. An additional aid to the pilot is the sequenced flashing lights at the outermost 1,000 feet along the extended centerline of the runway. The entire system, using five flashing lights, extends to 2,400 feet. The typical MALSР system consists of a Control Cabinet, Unit 1; five Individual Control Cabinets, Unit 2; five sequenced Flasher Light Units, Unit 3; a 15-kVA Power Transformer, Unit 4; 45 PAR-38 Lampholders, Unit 6, mounted five to a light bar; 18 PAR-56 Lampholders, Unit 8, used in threshold light bar; a Junction Box, Unit 9, supplied with each Individual Control Cabinet.

2.0**PURPOSE**

The purpose of this procedure is to ensure the MALSР performs according to specifications FAA-E-2325e. The following subsystem components are connected and tested as a complete system in this procedure:

Control Cabinet (Unit 1)	G1-23-2600
Individual Control Cabinet (Unit 2)	G1-23-2700 (5 each)
Flasher Light Unit (Unit 3)	G1-23-1300 (5 each)
Power Transformer (Unit 4)	G1-23-1400

3.0**LOCATION AND SCHEDULE**

All production acceptance testing will be performed in the Production Test Area of the DME Corp. facility.

4.0**REFERENCE DOCUMENTS**

TI6850.97	MALSР Instruction Book Volume I of III
DTFA01-02-C-00175	Statement of Work (SOW)
FAA-E-2325e	MALSР Specification

5.0**RESPONSIBILITIES**

The tests described in this document are under the control of the MALSР Test Manager. The MALSР Test Manager reports directly to the MALSР Program Manager. The MALSР Test Manager is responsible for all test activities including the review of contract documents and test requirements, the development of test plans and procedures, and the coordination and supervision of test personnel activities. Production Test technicians are responsible for conducting the tests and recording the test results in the Test Data Sheets.

6.0 REQUIRED TEST EQUIPMENT (or equivalent)

- Oscilloscope (Storage) Tektronix Model 2232 with two X10 100MHz probes
- Digital Multimeter Fluke 8060A
- Dual variac DME
- G/G - A/G Mode Switch Box
- A/G Receiver (GFE)
- MALSR 50 Test Fixture DME T2-01-0093
- MALSR System Level Test Cables and Junction Boxes, DME T2-01-0120

7.0 TEST INSTRUCTIONS

7.1 TEST SET-UP

All production acceptance testing is conducted at laboratory ambient conditions.

Performance parameters or indications shall be recorded for all test steps marked with an asterisk (*). Test Data Sheets are provided at the end of this procedure for this purpose. The completed data sheets are retained by Quality Assurance.

* All test equipment used during this test shall display current calibration decals. The calibration history is on file for customer evaluation. Record the calibration details for all test equipment in the data sheet.

* In the Work Order for the system under test, verify evidence of inspection. Check the data sheet.

7.1.1 Remove AC POWER (facility 3 wire 240VAC power source) to the MALSR system.

7.1.2 Connect the system components as shown in Figure 1.

7.1.3 Set the Control Cabinet switches to the following positions:

- CB1 Approach lights to "OFF."
- CB2 Control to "OFF."
- CB3 Flasher power to "OFF."
- S1 Power Disconnect to "OFF."
- S2 Cabinet Light to "OFF."
- S3 Control "REMOTE, OFF, LOW, MEDIUM, HIGH" to "OFF."
- S4 Flasher to "OFF."
- S5 Softstart override to "OFF".

7.1.3.1 Set the power switch in the A/G Receiver to "OFF".

7.2 DETAILED TEST INSTRUCTIONS

7.2.1 Preliminary Performance Test

7.2.1.1 Apply AC POWER to the MALSР system. Set the Control Cabinet switches to the following positions:

- S1 Power Disconnect to "ON".
- S4 Flasher to "ON".
- CB1 Approach lights to "ON".
- CB2 Control to "ON".
- CB3 Flasher power to "ON".

During this procedure, there are many steps where the operator will be instructed to verify the lights are turned on to the proper intensity. The intensity level of the steady burning lights must be verified by measuring with a voltmeter the output voltage of the 15kVA Power Transformer. For the purpose of intensity level verification, this voltage min./max. tolerance will be +/- 10% to allow for fluctuations in the line voltage. This voltage may be accessed at the Power Transformer TB1 between terminals X1 and X3. Low intensity equals 90VAC - 110VAC, medium intensity equals 135VAC - 165VAC, and high intensity equals 216VAC - 264VAC. The intensity level of the sequenced flashers must be verified by measuring with an oscilloscope the peak voltage amplitude of the 5 flasher pulse monitor circuits from the 5 ICC's. Low intensity equals +6Vpk. - +13Vpk., medium intensity equals +14Vpk. - +25Vpk., and high intensity equals +26Vpk. - +45Vpk. In order to measure the amplitude of these pulses, set the oscilloscope as follows in the **storage** mode:

VERT. SCALE	2V / DIV. (for measuring low intensity)
	5V /DIV. (for measuring medium intensity)
	10V / DIV. (for measuring high intensity)
HOR. SCALE	20mS / DIV.
INPUT COUPLING	DC
TRIGGER MODE	NORM.
TRIGGER EDGE	POS.
ACQUISITION MODE	PEAK DETECT

Adjust the variable trigger knob on the oscilloscope so the trigger occurs on the first flasher pulse with all 5 flasher pulses in the sequence displayed. The first pulse displayed (furthest to the left) corresponds to STATION 24, the next pulse to the right corresponds to STATION 22, the third pulse corresponds to STATION 20, the fourth pulse corresponds to STATION 18, and the last pulse (furthest to the right) corresponds to STATION 16.

7.2.1.2* **MALSР local control functionality (low):** In the Control Cabinet, set the S3 CONTROL switch to the "LOW" position. Verify the steady burning lights (measure the Power Transformer output voltage) and the Flashers (measure the 5 pulse amplitudes at the input to the Control Interface PWA, STA 24 through STA 16 as displayed from left to right) are in the low intensity mode and flashing in sequence (see para. 7.2.1.1 for

measuring instructions). Record in the data sheet. (90VAC - 110VAC) (+6Vpk. - +13Vpk.)

7.2.1.3* **MALSR flasher switch:** In the Control Cabinet, set the S4 Flasher switch to OFF. Observe Flashers turn OFF and steady state lights remain on. Check the data sheet.

7.2.1.4* **MALSR flasher circuit breaker:** In the Control Cabinet, set S4 Flasher switch 'ON' and CB3 Flasher Control 'OFF'. Observe the steady state lights are on and the flashers are off. Check the data sheet.

Set CB3 FLASHER control 'ON'.

7.2.1.5* **MALSR local control medium:** In the Control Cabinet, set the S3 CONTROL switch to the "MED" position. Verify the steady burning lights and the Flashers are 'ON' in the medium intensity mode and flashing in sequence. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes in the data sheet. (135VAC - 165VAC) (+14Vpk. - +25Vpk.)

7.2.1.6* **MALSR local control high:** Set S3 CONTROL switch to the "HIGH" position. Verify the steady burning lights and the flashers are in the high intensity mode and flashing in sequence. Record the Power Transformer voltage and the 5 flasher pulse monitor amplitudes in the data sheet. (216VAC - 264VAC) (+26Vpk. - +45Vpk.)

Set S3 CONTROL switch to the "OFF" position

7.2.1.7* **MALSR control cabinet maintenance light:** Set S2 LIGHT switch to the "ON" position. Observe the cabinet light is "ON." Check the data sheet.

7.2.1.8 **Control Cabinet GFI Convenience Outlet**

7.2.1.8.1* **Convenience outlet wiring:** Press the Reset button on the J1 convenience outlet. Plug in the ETCON CT101 Receptacle/GFCI Tester and observe the WHITE and YELLOW LIGHTS are ON and the RED LIGHT is OFF. Any other combination of lights ON or OFF indicates a miswired outlet as shown in the following table:

FAILURE MODE	LIGHT INDICATION	
Reverse Polarity	Yellow, Red White	ON OFF
Open Ground	Yellow White, Red	ON OFF
Open Neutral	White Yellow, Red	ON OFF
Open Hot	All lights	OFF
Hot & Ground Reversed	Yellow Red, White	OFF ON
Hot On Neutral, Hot Unwired	Red White, Yellow	ON OFF

Check the other J1 outlet also and check the data sheet for both J1 outlets.

- 7.2.1.8.2* **GFI test:** Press the GFI test button on the outlet tester. Verify the lights on the tester extinguish and the reset button on the outlet pops out. Depress the reset button on the outlet in order to restore power to the outlet. Check the other J1 outlet in the same manner and check the data sheet for both J1 outlets.
- 7.2.1.8.3* **GFI outlet test button:** Press the test button on the outlet and verify the reset button pops out. Check the data sheet.

Press the reset button to restore power to both outlets.

7.2.2 MALS Final Operational Testing

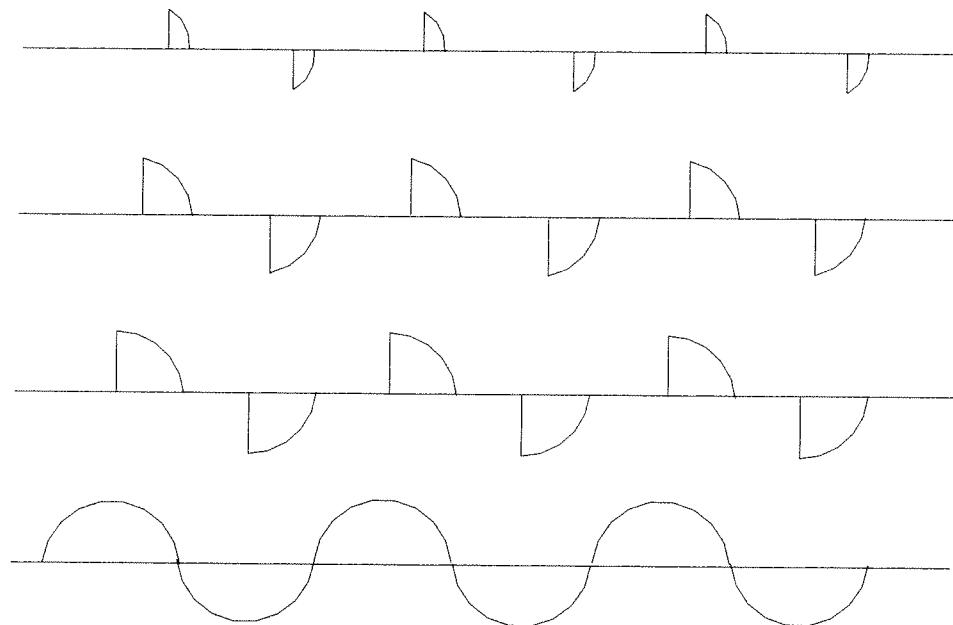


Figure 2. Soft Start Waveforms

- 7.2.2.1* **Soft start power ramp operation:** Set the oscilloscope, for single channel operation, non store mode (non averaging analog mode), as follows:

volts / div.	50V
hor. Sweep	5mS / div.
Trigger mode	AUTO

Connect the oscilloscope probe to contactor K1-4 (referenced to ground) in the Control Cabinet. Observe the oscilloscope display when the Control switch (S3) is changed from OFF to LOW or from one intensity to another intensity. Verify the display develops into a 120VAC sine wave gradually as shown in the pictures on the following page over a 1.5 second period. This verifies that the soft start circuitry is properly controlling the "ramping up" of current to the Power Transformer. The actual time it takes to develop into a full sine wave will be measured and recorded in step 7.2.2.2. Also verify the sine

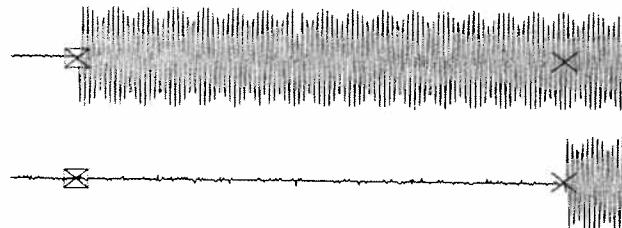
wave is free of switching spikes as shown in Figure 2. If switching spikes are present, the SCR assembly snubber networks are faulty. Verify the display develops into a full sine wave without any switching spikes as shown. Check the data sheet.

7.2.2.2*

Soft start power ramp duration: Set the oscilloscope, for dual channel operation, storage mode, as follows:

Ch 1 volts / div.	50V set the variable amplitude knob to min. gain
Ch 2 volts / div.	50V set the variable amplitude knob to min. gain
hor. sweep	.2S / div.
sweep mode	CHOP
trigger mode	NORM
trigger	CH 1
aquisition mode	SAMPLE

Set S3 Control switch and S1 Power Disconnect switch to OFF before connecting the oscilloscope probes. Connect the channel 1 probe to P4-8 on the Timer Control / Soft Start PWA in the Control Cabinet. Connect the channel 2 probe to P6-5 on the Timer Control / Soft Start PWA. Set S1 Power Disconnect to ON and S3 Control switch to OFF. Adjust the oscilloscope trigger so that the scope triggers on the 120VAC sine wave at P4-8 whenever the S3 Control switch is changed from OFF to LOW and presents a display as shown below. The channel 2 display shows when the lock-out contactor, K5, energizes, signaling the soft start ramp has ended and the lights are at full intensity. Observe that the lock-out contactor K5 energizes and measure the time duration from the beginning of the sine wave at P4-8 to the beginning of the sine wave at P6-5. This is the soft start power ramp duration. Verify the duration is 1.5 seconds + / - 0.5 seconds (1.0-2.0S). Record the duration in the data sheet.



7.2.2.3*

Safety override switch: Set S3 Control switch to OFF. Set S5 Soft Start Override to ON. Observe that the lock-out contactor K5 energizes and stays energized during intensity state changes by rotating the S3 Control switch from OFF to LOW to MED to HIGH and then back to OFF. Check the data sheet.

Set S5 Soft Start Override back to OFF.

7.2.2.4

Power Transformer secondary voltages

NOTE: The 15kVA power transformer is provided with primary winding taps in 2.5% steps in order to compensate for the actual input voltage being provided by the power service. The proper tap must be used in each of the following tests (low, medium, and high). The input voltage to the transformer is a nominal 120VAC on low and medium intensity and a nominal 240VAC on high intensity. The taps are rated as follows:

TB1-1	126 / 252VAC
TB1-2	123 / 246VAC
TB1-3	120 / 240VAC
TB1-4	117 / 234VAC
TB1-5	114 / 228VAC
TB1-6	111 / 222VAC
TB1-7	108 / 216VAC
TB1-8	105 / 210VAC

In the following tests, when instructed to measure the input voltage to the transformer, make the measurement and then turn the power off and connect the input to the tap that is closest to the measured input voltage. The flashers may be turned off during this test since they do not affect the operation of the 15kVA power transformer.

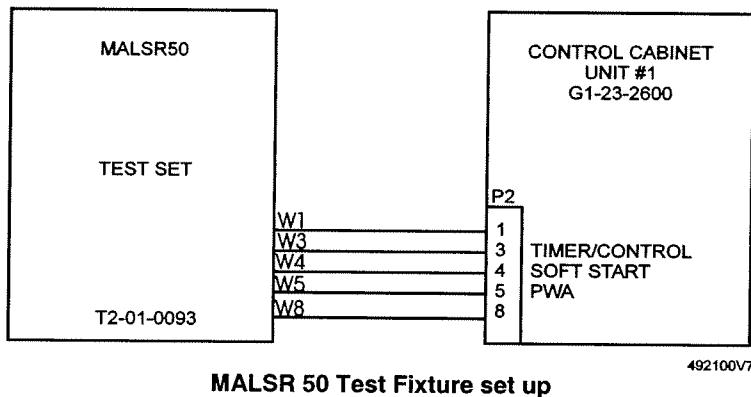
- 7.2.2.4.1* **Power Transformer secondary voltage, low intensity:** Set S3, in the Control Cabinet, to the "LOW" position. Using the DVM (AC volts, 200V scale) measure the input voltage on the power transformer at terminals 3 (the nominal input tap) and H3. If necessary, remove power and change the terminal 3 connection to another input tap. Record the tap used and the input voltage on the data sheet.
- 7.2.2.4.2* Measure the output voltage on the power transformer at terminals X1 and X3. The voltage should read 97.5 to 102.5 VAC. Record the output voltage on the data sheet.
- 7.2.2.4.3* **Power Transformer secondary voltage, medium intensity:** Set S3 , in the Control Cabinet, to the "MED" position. Measure the input voltage on the power transformer at terminals 3 (the nominal input tap) and H1. If necessary, remove power and change the terminal 3 connection to another input tap. Record the tap used and the input voltage on the data sheet.
- 7.2.2.4.4* Measure the output voltage on the power transformer at terminals X1 and X3. The voltage should read 146.25 to 153.75 VAC. Record the output voltage on the data sheet.
- 7.2.2.4.5* **Power Transformer secondary voltage, high intensity:** Set S3, in the Control Cabinet, to the "HIGH" position. Measure the input voltage (change DVM to 1000v scale) on the power transformer at terminals 3 (the nominal input tap) and H2. If necessary, remove power and change the terminal 3 connection to another input tap. Record the tap used and the input voltage on the data sheet.
- 7.2.2.4.6* Measure the output voltage on the power transformer at terminals X1 and X3. The voltage should read 234 to 246 VAC. Record the output voltage on the data sheet.
- 7.2.2.4.7 Set S3 in the Control Cabinet to the OFF position and remove AC POWER from the MALSР system.

7.2.2.5 **Two Hour Test**

The first hour of testing consists of operating the system in the HIGH intensity mode using the remote control input. The second hour of testing, cycles the intensity modes from LOW, to MEDIUM, to HIGH to OFF. Each intensity is on for five minutes then all

are turned off for one minute. The cycle is repeated for one hour. In the ICC's, verify the proper high voltage transformer taps are being used by measuring the ICC input voltage between TB1-1 and TB1-3 and plugging P5 into the jack (J3, J4, J5, or J6) with the closest voltage rating.

- 7.2.2.5.1 **One hour high intensity test:** Verify AC POWER is removed from the M ALSR system. Set S3 Control switch in the Control Cabinet to REMOTE. Connect the M ALSR 50 test fixture (verify the test fixture power is off) as shown. Connect the sequenced flasher monitor test fixture as shown.



- 7.2.2.5.1* Turn the "MODE" switch, on the M ALSR 50 test fixture, to the "HIGH INTENSITY" position. Apply AC POWER to the M ALSR system. Turn on power to the M ALSR 50 test fixture. The M ALSR system should be on in the high intensity mode. Record the Power Transformer output voltage, the 5 flasher pulse monitor amplitudes, and the reading on the Elapsed Time Indicator (M1) on the data sheet (start reading). (216VAC - 264VAC) (+26Vpk. - +45Vpk.)
- 7.2.2.5.2* **One hour local control intensity cycle test:** Turn the "MODE" switch, on the M ALSR 50 test fixture, to the "CYCLED" position. Turn on power to the test fixture. The M ALSR system will cycle from LOW, to MEDIUM to HIGH, each for five minutes, then OFF for one minute. Verify the system cycles properly and time the test for one hour \pm two minutes. In order to verify the M ALSR system is cycling properly, measure the Power Transformer output voltage with the DVM and the 5 flasher pulse monitor amplitudes with the oscilloscope each time the system changes to a new intensity, and note the time. Record the data in the data sheet for the one hour duration. (Low = 90VAC - 110VAC and +6Vpk. - +13Vpk.; Med = 135VAC - 165VAC and +14Vpk. - +25Vpk.; High = 216VAC - 264VAC and +26Vpk. - +45Vpk.; Off = 0VAC - .1VAC and no flashing)
- Turn off power to the M ALSR 50 test fixture.
- 7.2.2.5.3* **Manual local control switch cycle:** In the Control Cabinet set the S3 "CONTROL" switch to the "OFF" position. Start cycling the switch from LOW, to MEDIUM, to HIGH, to MEDIUM, to LOW and to OFF observing the intensity mode changes. **Repeat this cycle nineteen (19) more times (a total of 20 cycles) verifying the steady burning and flasher lights changing to the proper intensity level.** Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes in the data sheet

for each switch (S3) position for all 20 cycles. (Low = 90VAC - 110VAC and +6Vpk. - +13Vpk.; Med = 135VAC - 165VAC and +14Vpk. - +25Vpk.; High = 216VAC - 264VAC and +26Vpk. - +45Vpk.; Off = 0VAC - .1VAC and no flashing)

7.2.2.6 Interlock Switch Test

CAUTION!

Hazardous voltages are present when performing this test.

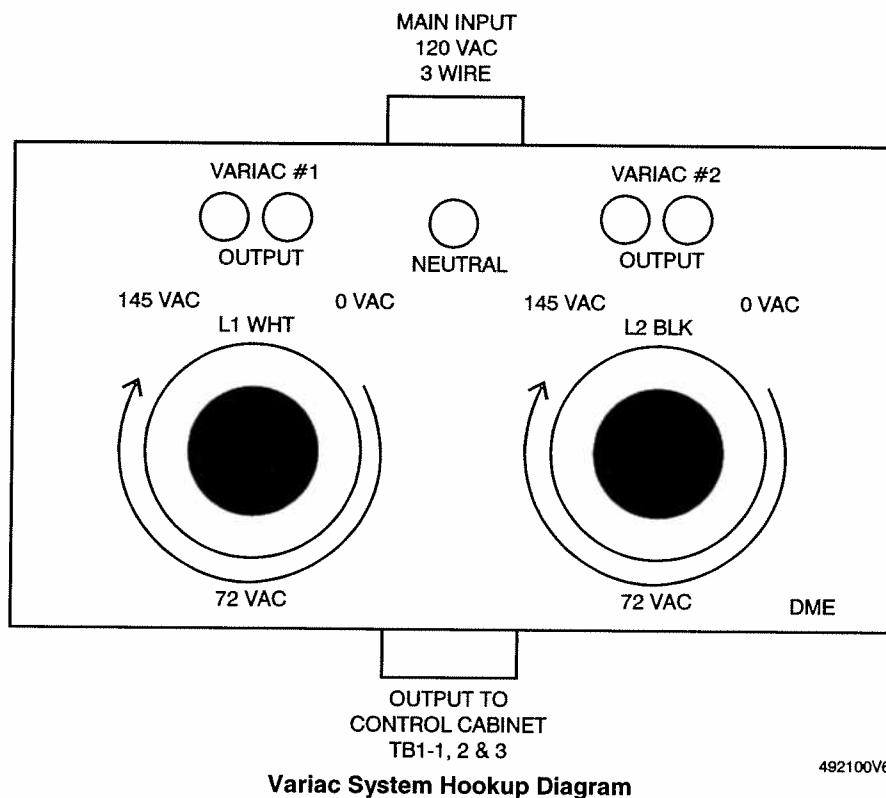
The Interlock Switch in the ICC is designed to disconnect all incoming power and discharge all high voltage circuits when the ICC cover is opened. The Interlock Switch also contains an override feature which allows for maintenance activities by a qualified technician. This test must be performed on all ICC's.

- 7.2.2.6.1* Set switch S3 CONTROL to the 'LOW' position. Verify that the flasher is flashing. Lift the ICC cover and observe that the flasher has stopped flashing. This is an indication that power has been removed and that the high voltage bleed down circuits are activated. Check the data sheet.
- 7.2.2.6.2* Pull the interlock switch shaft up to the maintenance position. Verify that the flasher is flashing. Check the data sheet.
Return the interlock switch to the normally open position.
- 7.2.2.6.3* Close the cover and verify that the flasher turns on. Check the data sheet.
- 7.2.2.6.4* Repeat steps 7.2.2.5.1 through 7.2.2.5.3 for the other four ICC's.
- 7.2.2.6.5 Turn the control switch (S3) in the Control Cabinet to the OFF position. Remove the AC POWER from the MALS system.

7.2.2.7 Low Line Performance Test

7.2.2.7.1

Low line test set up: Remove AC POWER from the MALS system. Connect the input of the Variac to the input power as shown. Apply AC POWER and using the DVM (AC volts, 1000V scale) adjust both variacs for a balanced combined output of 216 VAC (the output of each variac should be approximately 108VAC). Remove AC POWER. Connect the output of the variac to the Control Cabinet as shown. Line 1 to TB1-1, neutral to TB1-2, and line 2 to TB1-3.



- 7.2.2.7.2 Open the lids on all five ICC's and plug the P5 connector on the control panel into the J4 220VAC jack. Close and secure all five lids.
- 7.2.2.7.3 In the circuit breaker box, pull all the breakers to the "OFF" position except for CB6 (STA 12) and CB7 (STA 14).
- 7.2.2.7.4 Connect the 15kVA Power Transformer input to tap 7 (216VAC).
- 7.2.2.7.5 Apply AC POWER.
- 7.2.2.7.6* **Low line high intensity local control operation:** Set the local control to high. With the lights turn on to high intensity, readjust the output of the Variac for a balanced output of 216VAC. Verify the lights are on in high intensity and the flashers are flashing in sequence. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes in the data sheet. (216VAC – 264VAC) (+26Vpk. - +45Vpk.)

7.2.2.8*

Low line soft start power ramp operation: Set the oscilloscope, non-store mode (non averaging analog), for single channel operation, as follows:

volts / div.	50V
hor. sweep	5mS / div.
trigger mode	AUTO

Connect the oscilloscope probe to contactor K1-4 (referenced to ground) in the Control Cabinet. Observe the oscilloscope display when the Control switch (S3) is changed from OFF to LOW or from one intensity to another intensity. Verify the display develops into a 108VAC sine wave gradually as shown in Figure 2 over a 1.5 second period. This verifies that the soft start circuitry is properly controlling the “ramping up” of current to the Power Transformer. Also verify the sine wave is free of switching spikes. If switching spikes are present, the SCR assembly snubber networks are faulty. Verify the display develops into a full sine wave without any switching spikes as shown. Check the data sheet.

7.2.2.8.1*

Low line soft start power ramp duration: Set the oscilloscope (storage mode), for dual channel operation, as follows:

Ch 1 volts / div.	50V set variable amplitude knob to min. gain
Ch 2 volts / div.	50V set variable amplitude knob to min. gain
hor. sweep	.2S / div.
sweep mode	CHOP
trigger mode	NORM
trigger	CH 1
acquisition mode	SAMPLE

Set S3 Control switch and S1 Power Disconnect switch to OFF before connecting the oscilloscope probes. Connect the channel 1 probe to P4-8 on the Timer Control / Soft Start PWA in the Control Cabinet. Connect the channel 2 probe to P6-5 on the Timer Control / Soft Start PWA. Set S1 Power Disconnect to ON and S3 Control switch to OFF. Adjust the oscilloscope trigger so that the scope triggers on the pulse at P4-8 whenever the S3 Control switch is changed from OFF to LOW and presents a display as shown in Figure 2. The channel 2 display shows when the lock-out contactor, K5, energizes, signaling the soft start ramp has ended and the lights are at full intensity. Observe that the lock-out contactor K5 energizes and measure the time duration from the beginning of the sine wave at P4-8 to the beginning of the sine wave at P6-5. This is the soft start power ramp duration. Verify the duration is 1.5 seconds + / - 0.5 seconds (1.0 - 2.0 S). Record the duration in the data sheet.

Set the S3 Control switch to OFF. Remove AC POWER from the MALSR system.

7.2.2.9

High line performance test: Verify the S3 Control switch is set to OFF and AC POWER has been removed from the system. Refer to step 7.2.2.8 for the set up description and diagram. Set the output of the variac for a balanced output of 264VAC (line 1 variac output should be approx. 132VAC and line 2 variac output should be approx. 132VAC).

7.2.2.9.1

Open the lids on all five ICC's and plug the P5 connector on the control panel into the J6 260VAC jack. Close and secure all five lids.

- 7.2.2.9.2 In the circuit breaker box, verify all the breakers are pulled to the “OFF” position except for CB6 (STA 12) and CB7 (STA 14).
- 7.2.2.9.3 Connect the 15kVA Power Transformer input to tap 1 (252VAC).
- 7.2.2.9.4* **High line high intensity local control operation:** Apply AC POWER to the MALSР system. Set the local control to HIGH. With the lights turned on to high intensity, readjust the output of the Variac for a balanced output of 264VAC. Verify the lights are on in high intensity and the flashers are flashing in sequence. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes in the data sheet. (216VAC - 264VAC) (+26Vpk. - +45Vpk.)
- 7.2.2.10 **Control Cabinet GFI Convenience Outlet Performance Test**
- 7.2.2.10.1* **GFI test:** Press the Reset button on the J1 convenience outlet in the Control Cabinet. Plug in the ETCON CT101 Tester. Press the GFI test button on the outlet tester. Verify the lights on the tester extinguish and the reset button on the outlet pops out. Depress the reset button on the outlet in order to restore power to the outlet. Check the other J1 outlet in the same manner and check the data sheet for both J1 outlets.
- 7.2.2.10.2* **GFI outlet test button:** Press the test button on the outlet and verify the reset button pops out. Check the data sheet.

Press the reset button to restore power to both outlets.

END OF TEST

**TEST DATA SHEETS
MALSР SYSTEM
G1-23-1000**

Tested By: _____

Witnessed By: _____

Date: _____

Date: _____

Control Cabinet S/N: _____

Individual Control Cabinet S/N: _____

Flash Head Unit S/N: _____

15kVA Power Transformer S/N: _____

7.1

CALIBRATION DETAILS FOR TEST EQUIPMENT USED

Description	Model No.	DME Control No. or Serial No.	Calibration Date	
			Last	Due

TEST DATA SHEETS
MALSR SYSTEM
G1-23-1000

7.1 Evidence of inspection is verified in the Work Order

INITIAL _____

7.2.1 Preliminary Performance Test

Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.1.2	MALSR local control functionality (low): S3 Control switch set to LOW. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes STA 24 +6Vpk. STA 22 +6Vpk. STA 20 +6Vpk. STA 18 +6Vpk. STA 16 +6Vpk. and check that the flashers are flashing in sequence.	90VAC N/A	_____ VAC _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. CHECK	110VAC N/A	P F P F P F P F P F P F
7.2.1.3	MALSR flasher switch: S4 Flasher switch set to OFF. Flashers turn OFF and steady state lights remain ON.	N/A	_____ CHECK	N/A	P F
7.2.1.4	MALSR flasher circuit breaker: S4 Flasher switch set to ON and CB3 Flasher Control set to OFF. Steady state lights remain ON, and flashers are OFF.	N/A	_____ CHECK	N/A	P F
7.2.1.5	MALSR local control medium: S3 Control switch set to MEDIUM. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes STA 24 +14Vpk. STA 22 +14Vpk. STA 20 +14Vpk. STA 18 +14Vpk. STA 16 +14Vpk. and check that the flashers are flashing in sequence.	135VAC N/A	_____ VAC _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. CHECK	165VAC N/A	P F P F P F P F P F P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)																									
7.2.1.6	<p>MALSR local control high:</p> <p>S3 Control switch set to HIGH. Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes</p> <table style="margin-left: 20px;"> <tr><td>STA 24</td><td>+26Vpk.</td><td>_____ VAC</td><td>264VAC</td><td>P F</td></tr> <tr><td>STA 22</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 20</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 18</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 16</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> </table> <p>and check that the flashers are flashing in sequence.</p>	STA 24	+26Vpk.	_____ VAC	264VAC	P F	STA 22	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 20	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 18	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 16	+26Vpk.	_____ Vpk.	+45Vpk.	P F	216VAC N/A	_____ CHECK	N/A	P F
STA 24	+26Vpk.	_____ VAC	264VAC	P F																										
STA 22	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 20	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 18	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 16	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
7.2.1.7	<p>MALSR control cabinet maintenance light:</p> <p>S2 Light switch set to ON. Maintenance light turns ON.</p>	N/A	_____ CHECK	N/A	P F																									
7.2.1.8	Control Cabinet GFI Convenience Outlet Performance Test (1st test)																													
7.2.1.8.1	<p>Convenience outlet wiring:</p> <p>Outlet tester indicates the first J1 outlet is wired properly ; white and yellow lights are ON and red light is OFF</p> <p>and the second J1 outlet is wired properly; white and yellow lights are ON and the red light is OFF.</p>	N/A N/A	_____ CHECK _____ CHECK	N/A N/A	P F P F																									
7.2.1.8.2	<p>GFI test:</p> <p>Tester lights extinguish and the reset button on the outlet pops out when GFI test button is depressed for the first J1 outlet</p> <p>and for the second J1 outlet.</p> <p>Power is restored to the first J1 outlet when reset button is depressed and for the second J1 outlet.</p>	N/A N/A N/A	_____ CHECK _____ CHECK _____ CHECK	N/A N/A N/A	P F P F P F																									
7.2.1.8.3	<p>GFI outlet test button:</p> <p>Outlet reset button pops out when outlet test button is depressed.</p>	N/A	_____ CHECK	N/A	P F																									

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7.2.2 MALSR Final Operational Testing

Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2	Soft Start Power Ramp Duration				
7.2.2.1	Soft start power ramp operation: Signal at K1-4 develops into a full sine wave without spikes as illustrated in Figure 2.	N/A	_____CHECK	N/A	P F
7.2.2.2	Soft start power ramp duration: Time duration from start of 120VAC sine wave at P4-8 to start of 120VAC sine wave at P6-5 is 1.5 seconds +/- 0.5 seconds and lockout contactor K5 energizes.	1.0 sec.	_____sec.	2.0 sec.	P F
7.2.2.3	Safety Override Switch K5 energizes when S5 Soft Start Override switch is turned on and stays energized during intensity state changes.	N/A	_____CHECK	N/A	P F
7.2.2.4	Power Transformer Secondary Voltages				
7.2.2.4.1	Power transformer secondary voltage, low intensity: With S3 Control switch set to LOW, record input voltage and tap used.	N/A N/A	_____VAC _____TAP	N/A N/A	N/A N/A
7.2.2.4.2	Output voltage measured at terminals X1 and X3.	97.5VAC	_____VAC	102.5VAC	P F
7.2.2.4.3	Power transformer secondary voltage, medium intensity: With S3 Control switch set to MEDIUM, record input voltage and tap used.	N/A N/A	_____VAC _____TAP	N/A N/A	N/A N/A
7.2.2.4.4	Output voltage measured at terminals X1 and X3.	146.25 VAC	_____VAC	153.75 VAC	P F
7.2.2.4.5	Power transformer secondary voltage, high intensity: With S3 Control switch set to HIGH, record input voltage and tap used.	N/A N/A	_____VAC _____TAP	N/A N/A	N/A N/A
7.2.2.4.6	Output voltage measured at terminals X1 and X3.	234VAC	_____VAC	246VAC	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)																									
7.2.2.5	Two Hour Test																													
7.2.2.5.1	One hour high intensity test:																													
7.2.2.5.1.1	<p>MALSR system is turned on to HIGH intensity. Record Power Transformer output voltage, the 5 flasher pulse monitor amplitudes,</p> <table style="margin-left: 20px;"> <tr><td>STA 24</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 22</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 20</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 18</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> <tr><td>STA 16</td><td>+26Vpk.</td><td>_____ Vpk.</td><td>+45Vpk.</td><td>P F</td></tr> </table> <p>and start time reading on the Elapsed Time Indicator M1.</p>	STA 24	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 22	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 20	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 18	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 16	+26Vpk.	_____ Vpk.	+45Vpk.	P F	216VAC	_____ VAC	264VAC	P F
STA 24	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 22	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 20	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 18	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
STA 16	+26Vpk.	_____ Vpk.	+45Vpk.	P F																										
7.2.2.5.2	1 hour high intensity test completed successfully and printout is attached to this sheet.	N/A	_____ CHECK	N/A	P F																									
	Record Elapsed Time Indicator reading at end of 1 hour high intensity test.	N/A	_____ M1 RDG	N/A	N/A																									

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)																																																																																																																																																																								
7.2.2.5.2	<p>One hour local control intensity test:</p> <p>Record the Power Transformer output voltage, the 5 flasher pulse monitor amplitudes, and record the time for each intensity in each cycle for one hour.</p> <table> <tr> <td colspan="6" style="text-align: center;"><u>CYCLE 1 LOW</u></td> </tr> <tr> <td>Transformer voltage</td><td>90VAC</td><td>_____VAC</td><td>110VAC</td><td>P F</td><td></td></tr> <tr> <td>STA 24 pulse amplitude</td><td>+6Vpk.</td><td>_____Vpk.</td><td>+13Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 22 pulse amplitude</td><td>+6Vpk.</td><td>_____Vpk.</td><td>+13Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 20 pulse amplitude</td><td>+6Vpk.</td><td>_____Vpk.</td><td>+13Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 18 pulse amplitude</td><td>+6Vpk.</td><td>_____Vpk.</td><td>+13Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 16 pulse amplitude</td><td>+6Vpk.</td><td>_____Vpk.</td><td>+13Vpk.</td><td>P F</td><td></td></tr> <tr> <td>Time</td><td>N/A</td><td>_____</td><td>N/A</td><td></td><td></td></tr> <tr> <td colspan="6" style="text-align: center;"><u>MEDIUM</u></td> </tr> <tr> <td>Transformer voltage</td><td>135VAC</td><td>_____VAC</td><td>165VAC</td><td>P F</td><td></td></tr> <tr> <td>STA 24 pulse amplitude</td><td>+14Vpk.</td><td>_____Vpk.</td><td>+25Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 22 pulse amplitude</td><td>+14Vpk.</td><td>_____Vpk.</td><td>+25Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 20 pulse amplitude</td><td>+14Vpk.</td><td>_____Vpk.</td><td>+25Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 18 pulse amplitude</td><td>+14Vpk.</td><td>_____Vpk.</td><td>+25Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 16 pulse amplitude</td><td>+14Vpk.</td><td>_____Vpk.</td><td>+25Vpk.</td><td>P F</td><td></td></tr> <tr> <td>Time</td><td>N/A</td><td>_____</td><td>N/A</td><td></td><td></td></tr> <tr> <td colspan="6" style="text-align: center;"><u>HIGH</u></td> </tr> <tr> <td>Transformer voltage</td><td>216VAC</td><td>_____VAC</td><td>264VAC</td><td>P F</td><td></td></tr> <tr> <td>STA 24 pulse amplitude</td><td>+26Vpk.</td><td>_____Vpk.</td><td>+45Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 22 pulse amplitude</td><td>+26Vpk.</td><td>_____Vpk.</td><td>+45Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 20 pulse amplitude</td><td>+26Vpk.</td><td>_____Vpk.</td><td>+45Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 18 pulse amplitude</td><td>+26Vpk.</td><td>_____Vpk.</td><td>+45Vpk.</td><td>P F</td><td></td></tr> <tr> <td>STA 16 pulse amplitude</td><td>+26Vpk.</td><td>_____Vpk.</td><td>+45Vpk.</td><td>P F</td><td></td></tr> <tr> <td>Time</td><td>N/A</td><td>_____</td><td>N/A</td><td></td><td></td></tr> <tr> <td colspan="6" style="text-align: center;"><u>OFF</u></td> </tr> <tr> <td>Transformer voltage</td><td>0VAC</td><td>_____VAC</td><td>.1VAC</td><td>P F</td><td></td></tr> <tr> <td>Flashers are off</td><td>N/A</td><td>_____CHECK</td><td>N/A</td><td>P F</td><td></td></tr> <tr> <td>Time</td><td>N/A</td><td>_____</td><td>N/A</td><td></td><td></td></tr> </table>	<u>CYCLE 1 LOW</u>						Transformer voltage	90VAC	_____VAC	110VAC	P F		STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F		STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F		STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F		STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F		STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F		Time	N/A	_____	N/A			<u>MEDIUM</u>						Transformer voltage	135VAC	_____VAC	165VAC	P F		STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F		STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F		STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F		STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F		STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F		Time	N/A	_____	N/A			<u>HIGH</u>						Transformer voltage	216VAC	_____VAC	264VAC	P F		STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F		STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F		STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F		STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F		STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F		Time	N/A	_____	N/A			<u>OFF</u>						Transformer voltage	0VAC	_____VAC	.1VAC	P F		Flashers are off	N/A	_____CHECK	N/A	P F		Time	N/A	_____	N/A						
<u>CYCLE 1 LOW</u>																																																																																																																																																																													
Transformer voltage	90VAC	_____VAC	110VAC	P F																																																																																																																																																																									
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Transformer voltage	0VAC	_____VAC	.1VAC	P F																																																																																																																																																																									
Flashers are off	N/A	_____CHECK	N/A	P F																																																																																																																																																																									
Time	N/A	_____	N/A																																																																																																																																																																										

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.2 continued	<u>CYCLE 2 LOW</u>				
	Transformer voltage	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	Time	N/A	_____	N/A	
	<u>MEDIUM</u>				
	Transformer voltage	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	Time	N/A	_____	N/A	
	<u>HIGH</u>				
	Transformer voltage	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	Time	N/A	_____	N/A	P F
	<u>OFF</u>				
	Transformer voltage	0VAC	_____VAC	.1VAC	P F
	Flashers are off	N/A	_____CHECK	N/A	P F
	Time	N/A	_____	N/A	

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.2 continued					
	<u>CYCLE 3 LOW</u>				
	Transformer voltage	90VAC	_____ VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	Time	N/A	_____	N/A	
	<u>MEDIUM</u>				
	Transformer voltage	135VAC	_____ VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	Time	N/A	_____	N/A	
	<u>HIGH</u>				
	Transformer voltage	216VAC	_____ VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	Time	N/A	_____	N/A	P F
	<u>OFF</u>				
	Transformer voltage	0VAC	_____ VAC	.1VAC	P F
	Flashers are off	N/A	_____ CHECK	N/A	P F
	Time	N/A	_____	N/A	

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.2 continued					
	<u>CYCLE 4 LOW</u>				
	Transformer voltage	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	Time	N/A	_____	N/A	
	<u>MEDIUM</u>				
	Transformer voltage	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	Time	N/A	_____	N/A	
	<u>HIGH</u>				
	Transformer voltage	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	Time	N/A	_____	N/A	P F
	<u>OFF</u>				
	Transformer voltage	0VAC	_____VAC	.1VAC	P F
	Flashers are off	N/A	_____CHECK	N/A	P F
	Time	N/A	_____	N/A	

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)																																																																																																																								
7.2.2.5.3	<p>Manual local control switch cycle:</p> <p>Verify the steady burning lights and flashers change to proper intensity during cycling of S3 Control switch from L to M to H to M to L to OFF for 20 cycles. Record Power Transformer output voltage and the 5 flasher monitor pulse amplitudes for each switch position.</p> <table> <tbody> <tr> <td style="text-align: right;"><u>CYCLE 1 Low</u></td> <td>90VAC</td> <td>_____ VAC</td> <td>110VAC</td> <td>P F</td> </tr> <tr> <td>STA 24 pulse amplitude</td> <td>+6Vpk.</td> <td>_____ Vpk.</td> <td>+13Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 22 pulse amplitude</td> <td>+6Vpk.</td> <td>_____ Vpk.</td> <td>+13Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 20 pulse amplitude</td> <td>+6Vpk.</td> <td>_____ Vpk.</td> <td>+13Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 18 pulse amplitude</td> <td>+6Vpk.</td> <td>_____ Vpk.</td> <td>+13Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 16 pulse amplitude</td> <td>+6Vpk.</td> <td>_____ Vpk.</td> <td>+13Vpk.</td> <td>P F</td> </tr> <tr> <td style="text-align: right;"><u>Medium</u></td> <td>135VAC</td> <td>_____ VAC</td> <td>165VAC</td> <td>P F</td> </tr> <tr> <td>STA 24 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 22 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 20 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 18 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 16 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td style="text-align: right;"><u>High</u></td> <td>216VAC</td> <td>_____ VAC</td> <td>264VAC</td> <td>P F</td> </tr> <tr> <td>STA 24 pulse amplitude</td> <td>+26Vpk.</td> <td>_____ Vpk.</td> <td>+45Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 22 pulse amplitude</td> <td>+26Vpk.</td> <td>_____ Vpk.</td> <td>+45Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 20 pulse amplitude</td> <td>+26Vpk.</td> <td>_____ Vpk.</td> <td>+45Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 18 pulse amplitude</td> <td>+26Vpk.</td> <td>_____ Vpk.</td> <td>+45Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 16 pulse amplitude</td> <td>+26Vpk.</td> <td>_____ Vpk.</td> <td>+45Vpk.</td> <td>P F</td> </tr> <tr> <td style="text-align: right;"><u>Medium</u></td> <td>135VAC</td> <td>_____ VAC</td> <td>165VAC</td> <td>P F</td> </tr> <tr> <td>STA 24 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 22 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 20 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 18 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> <tr> <td>STA 16 pulse amplitude</td> <td>+14Vpk.</td> <td>_____ Vpk.</td> <td>+25Vpk.</td> <td>P F</td> </tr> </tbody> </table>	<u>CYCLE 1 Low</u>	90VAC	_____ VAC	110VAC	P F	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	<u>High</u>	216VAC	_____ VAC	264VAC	P F	STA 24 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 22 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 20 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 18 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F	STA 16 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F				
<u>CYCLE 1 Low</u>	90VAC	_____ VAC	110VAC	P F																																																																																																																									
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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't	<u>Low</u>	90VAC	VAC	110VAC	P F
		STA 24 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 22 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 20 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 18 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 16 pulse amplitude	+6Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	VAC	.1VAC	P F
		Flashers are OFF	N/A	CHECK	N/A
	<u>CYCLE 2 Low</u>	90VAC	VAC	110VAC	P F
		STA 24 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 22 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 20 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 18 pulse amplitude	+6Vpk.	+13Vpk.	P F
		STA 16 pulse amplitude	+6Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	VAC	165VAC	P F
		STA 24 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 22 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 20 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 18 pulse amplitude	+14Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	VAC	264VAC	P F
		STA 24 pulse amplitude	+26Vpk.	+45Vpk.	P F
		STA 22 pulse amplitude	+26Vpk.	+45Vpk.	P F
		STA 20 pulse amplitude	+26Vpk.	+45Vpk.	P F
		STA 18 pulse amplitude	+26Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	VAC	165VAC	P F
		STA 24 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 22 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 20 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 18 pulse amplitude	+14Vpk.	+25Vpk.	P F
	<u>Medium</u>	135VAC	VAC	165VAC	P F
		STA 24 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 22 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 20 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 18 pulse amplitude	+14Vpk.	+25Vpk.	P F
		STA 16 pulse amplitude	+14Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 3 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 4 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 5 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 6 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 7 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 8 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 9 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 10 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 11 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 12 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 13 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 14 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 15 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 16 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____ VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____ VAC	.1VAC	P F
	Flashers are OFF	N/A	_____ CHECK	N/A	P F
	<u>CYCLE 17 Low</u>	90VAC	_____ VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____ VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 18 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____ VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____ VAC	.1VAC	P F
	Flashers are OFF	N/A	_____ CHECK	N/A	P F
	<u>CYCLE 19 Low</u>	90VAC	_____ VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____ Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____ VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____ Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____ VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____ Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't					
	<u>Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Off</u>	0VAC	_____VAC	.1VAC	P F
	Flashers are OFF	N/A	_____CHECK	N/A	P F
	<u>CYCLE 20 Low</u>	90VAC	_____VAC	110VAC	P F
	STA 24 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 22 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 20 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 18 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	STA 16 pulse amplitude	+6Vpk.	_____Vpk.	+13Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	<u>High</u>	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	<u>Medium</u>	135VAC	_____VAC	165VAC	P F
	STA 24 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 22 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 20 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 18 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F
	STA 16 pulse amplitude	+14Vpk.	_____Vpk.	+25Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.5.3 con't	<u>Low</u> STA 24 pulse amplitude STA 22 pulse amplitude STA 20 pulse amplitude STA 18 pulse amplitude STA 16 pulse amplitude <u>Off</u> Flashers are OFF	90VAC +6Vpk. +6Vpk. +6Vpk. +6Vpk. +6Vpk. 0VAC N/A	_____ VAC _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. _____ Vpk. _____ VAC CHECK	110VAC +13Vpk. +13Vpk. +13Vpk. +13Vpk. +13Vpk. .1VAC N/A	P F P F P F P F P F P F P F P F
7.2.2.6	Interlock Switch Test				
	1st ICC				
7.2.2.6.1	Flasher stops flashing when ICC lid is opened.	N/A	_____ CHECK	N/A	P F
7.2.2.6.2	Flasher turns on when S1switch shaft is pulled up to the maintenance position.	N/A	_____ CHECK	N/A	P F
7.2.2.6.3	Flasher turns on when the ICC cover is closed.	N/A	_____ CHECK	N/A	P F
	2nd ICC				
7.2.2.6.1	Flasher stops flashing when ICC lid is opened.	N/A	_____ CHECK	N/A	P F
7.2.2.6.2	Flasher turns on when S1switch shaft is pulled up to the maintenance position.	N/A	_____ CHECK	N/A	P F
7.2.2.6.3	Flasher turns on when the ICC cover is closed.	N/A	_____ CHECK	N/A	P F
	3rd ICC				
7.2.2.6.1	Flasher stops flashing when ICC lid is opened.	N/A	_____ CHECK	N/A	P F
7.2.2.6.2	Flasher turns on when S1switch shaft is pulled up to the maintenance position.	N/A	_____ CHECK	N/A	P F
7.2.2.6.3	Flasher turns on when the ICC cover is closed.	N/A	_____ CHECK	N/A	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
	<u>4th ICC</u>				
7.2.2.6.1	Flasher stops flashing when ICC lid is opened.	N/A	_____CHECK	N/A	P F
7.2.2.6.2	Flasher turns on when S1switch shaft is pulled up to the maintenance position.	N/A	_____CHECK	N/A	P F
7.2.2.6.3	Flasher turns on when the ICC cover is closed.	N/A	_____CHECK	N/A	P F
	<u>5th ICC</u>				
7.2.2.6.1	Flasher stops flashing when ICC lid is opened.	N/A	_____CHECK	N/A	P F
7.2.2.6.2	Flasher turns on when S1switch shaft is pulled up to the maintenance position.	N/A	_____CHECK	N/A	P F
7.2.2.6.3	Flasher turns on when the ICC cover is closed.	N/A	_____CHECK	N/A	P F
7.2.2.7	Low Line Performance				
7.2.2.7.6	Low line (216VAC) high intensity local control operation:				
	Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F

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Para.	Description	Min.	Results	Max.	Pass / Fail (circle one)
7.2.2.8	Low Line Power Soft Start Ramp Duration				
	Low Line power soft start ramp operation:				
	Signal at K1-4 develops into a full sine wave without spikes.	N/A	_____CHECK	N/A	P F
7.2.2.8.1	Low Line power soft start ramp duration:				
	Time duration from start of 120VAC sine wave at P4-8 to start of 120VAC sine wave at P6-5 is 1.5 seconds +/- 0.5 seconds and lockout contactor K5 energizes.	1.0 sec.	_____sec.	2.0 sec.	P F
7.2.2.9	High Line Performance				
7.2.2.9.4	High line (264VAC) high intensity local control operation:				
	Record the Power Transformer output voltage and the 5 flasher pulse monitor amplitudes	216VAC	_____VAC	264VAC	P F
	STA 24 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 22 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 20 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 18 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
	STA 16 pulse amplitude	+26Vpk.	_____Vpk.	+45Vpk.	P F
7.2.2.10	Control Cabinet GFI Convenience Outlet Performance Test				
7.2.2.10.1	GFI test:				
	Tester lights extinguish and the reset button on the outlet pops out when GFI test button is depressed for the first J1 outlet and for the second J1 outlet.	N/A	_____CHECK	N/A	P F
	Power is restored to the first J1 outlet when reset button is depressed and for the second J1 outlet	N/A	_____CHECK	N/A	P F
7.2.2.10.2	GFI outlet test button:				
	Outlet reset button pops out when outlet test button is depressed.	N/A	_____CHECK	N/A	P F